



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

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Federal Energy Management Program

Electrical Metering in DOE Buildings

EPACT 2005 Requirements

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DOE Program Energy Management
Officials Meeting

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- Energy Policy Act of 2005, section 103, requires all Agencies to install electrical meters, where practicable, by 10/01/2012.
- FEMP has issued “Guidance for Electrical Metering in Federal Buildings” to implement EPACT requirement.
- All Federal Agencies required to develop implementation plans following the FEMP guidance, by **August 3, 2006.**



DOE Metering to Date:

- Provided funds for metering between 1986-1995 totaling approximately \$20 million;
- Funds were provided primarily to sites that implemented billing programs for major users;
- Many of the sites have continued these programs but no DOE policy exists that requires these billing programs or requires meters to be installed on DOE facilities;



- **Methods for Prioritizing Buildings and Metering Applications:**
 - The amount of electricity (energy) used in a building effected by building size, type of use (e.g. office, lab, industrial, etc.), age, climate, operating hours and occupancy;
 - The cost of electricity (energy and demand) will also impact the cost-effectiveness of the metering application; and
 - The expected/estimated benefits from the metering program will vary by objective (e.g. verifying bills, on-going commissioning, demand/response program, etc.).



- DOE HQ data available for prioritizing buildings for metering applications:
 - Building type, size, age, occupancy for each DOE owned building (FIMS);
 - Building electrical metering (standard or advanced) for each DOE building (FIMS); and
 - Energy cost and consumption data for each DOE site and typical EUIs for major building types (i.e. buildings, labs and exempt) at the site (EMS4).



- DOE Metering Plan Approach:
 - Develop a working group from the DOE Program Offices to develop specific DOE direction/goals to be issued to DOE sites by August 3, 2006;
 - Drafts of the direction/goals will be shared with the DOE sites for comments;
 - DOE sites submit Metering Plans that address required annual actions to meet the 2012 goal, by October 1, 2007; and
 - DOE will hire a contractor to evaluate and assist the sites in developing their plans.



- DOE Direction/Goals will consider the following:
 - Whether additional standard meters would be beneficial?
 - What additional requirements should be established for new construction?
 - What requirements might be established for using/reporting the metered data?
 - What percent of buildings GSF or energy consumption do we want to meter (goal)?
 - What screening approach should be used for decision making and should it be applied universally?
 - How much site funding should be dedicated to this effort and how this should be evaluated against competing priorities?



- DOE Guidance/Goals will consider the following (cont.):
 - Whether DOE should request additional appropriations for this requirement?
 - Whether a central fund should be established to fund the highest priorities?
 - What role can ESPCs or UESCs play in financing meters?
 - How will exemptions to guidance be processed?
 - Are there technical solutions (software/hardware) that should be required and/or standardized for consistency?
 - Are there long range goals that we want to work towards in this effort (e.g. annual reporting, commissioning, etc.)?
- Questions??